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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,892	03/24/2004	Thomas M. Durrum	STL11489/390-061-USP	5353

64776 7590 03/26/2008  
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EXAMINER
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KLIMOWICZ, WILLIAM JOSEPH

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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03/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/807,892	<b>Applicant(s)</b> DURRUM ET AL.	
	<b>Examiner</b> William J. Klimowicz	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/24/04</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***35 USC § 112 Sixth Paragraph***

This application contains claims (e.g., claim 16) apparently invoking 35 U.S. C. 112 sixth paragraph (i.e., means-plus-function). In order to satisfy 35 U.S.C 112 second paragraph, the written description must link or associate particular structure, material or acts to the function recited in the means-(or step-) plus-function claim limitation. 37 CFR 1.75(d)(1) provides, in part, that “the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.” In the situation in which the written description only implicitly or inherently sets forth the structure, material or acts corresponding to a means-(or step-) plus-function, and the Examiner concludes that one skilled in the art would recognize what structure, materials, or acts perform the function recited in a means-(or step-) plus-function, the Applicant should clarify the record by amending the written description such that it expressly recites what structure, material or acts perform the function recited in the claim element. (See Federal Register/ Vol. 65, No. 120/ Wednesday, June 21, 2000/ Notices/ pp.38510-38516 “Supplemental Examination Guidelines for Determining the Applicability of 35 U.S.C. 112, paragraph 6”).

More concretely, if Applicant wishes to have the claims considered under 35 USC § 112, sixth paragraph, the Applicant must:

- (i) Show why the claim language properly invokes 35 USC § 112, sixth paragraph (e.g., by showing that the claim term fails to be modified by sufficient structure for performing the claimed function);
- (ii) Identify the function for each invocation of 35 USC § 112, sixth paragraph;
- (iii) Identify the corresponding structure for each invocation of 35 USC § 112, sixth paragraph;

Additionally, as set forth, *supra*, the Applicant should clarify the record by amending the written description such that it expressly recites what structure, material or acts perform the function recited in the claim terms and phrases, provided no new matter is introduced. See 37 CFR 1.75(d) and MPEP § 2181.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-10, 14, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Blanks (US 5,315,465).

As per claims 1, 16 and 17, Blanks (US 5,315,465) discloses an actuator arm (24) for use in a rotary actuator assembly having a bearing cartridge assembly (including ball bearings and associated races as seen, e.g., in FIG. 5) with a stationary shaft (122) adapted to be fastened to a disc drive base plate (12) and an outer bearing sleeve (e.g., the outer races (142, 144)) rotatably

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connected to the stationary shaft (122) (via ball bearings (129)), the actuator arm (24) comprising: a generally flat sheet metal body (e.g. see COL. 1, lines 47-50) having upper and lower surfaces (see upper and lower surfaces, which correspond to the upper and lower surfaces of body (128) as seen in FIG. 5) and an actuator bore (134) passing therebetween, wherein the actuator bore (134) is sized to receive the bearing cartridge assembly (e.g., the outer races (142, 144)) therethrough; and a plurality of tabs (114) projecting inward from an interior surface of the actuator bore (134) (to engage the outer races), wherein the tabs (114) extend only partially along a depth of the actuator bore (134) between the upper and lower surfaces (between the upper and lower surfaces of (128) as seen in FIG. 5), wherein the tabs contact and secure the bearing cartridge assembly within the actuator bore (134).

As per claims 2 and 9, wherein the plurality of tabs *comprises* six tabs (114) (can be more).

As per claim 4, wherein an expansion space (i.e., a space under each (114) - see FIG. 4A and 5) is formed below each of the tabs (114) between the interior surface of the actuator bore (134) and the sleeve (e.g., the outer races (142, 144)) of the bearing cartridge assembly when the bearing cartridge assembly (e.g., the outer races (142, 144)) is inserted in the bore (134).

As per claim 5, wherein the sleeve (e.g., the outer races (142, 144)) has a flange (outer lower or upper surface of each outer race (142, 144)) having an outer diameter greater than a diameter of the actuator bore (that is, the bore which is further limited in radial extent by portion (136) - that is, the outer races (142, 144) have a diameter greater than the diameter of hole that forms (136) as seen in FIG. 5).

As per claim 6, an actuator assembly (22) is provided for use in a data storage device (10), that actuator assembly comprising: a single actuator body having upper and lower surfaces (of (128)) and a circular bore (134) therethrough, the circular bore (134) having a bore diameter and a plurality of tabs (114) projecting from an interior surface of the actuator body (128) into the actuator bore (134), wherein the tabs extend only partially between the upper and lower surfaces of the actuator body (128); and a bearing cartridge assembly (e.g., including the inner races (150, 154, the ball bearings (129), shaft (122) and the outer races (142, 144)) having a stationary shaft (122) connected to the disc drive housing (12) and an outer sleeve (e.g., the outer races (142, 144)) rotatably connected to the stationary shaft (122).

The product by process limitations in these claims (e.g., claim 6 - “wherein the sleeve is press-fit into and secured within the actuator bore by the tabs,”) are directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17(footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final structure of the product “gleaned” from the process limitations or steps, which must be determined in a “product by process” claim, and not the patentability of the process limitations. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claimed in “product by process” claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear.

The final product limitation derived from the claimed “process limitation” of “press-fit” fails to result in a structural difference between the disclosure of Blanks (US 5,315,465) and the

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claimed product, at least at it applies to the product limitation(s) “gleaned” from the process limitation(s). As such, Blanks (US 5,315,465) is seen to anticipate this limitation as it applies to the patentability of the final structure.

As per claim 7, wherein the plurality of tabs (114) are equally spaced around the actuator bore (134) (cf. FIGS 4A and 5).

As per claim 8, comprising an even number of tabs (114) (see FIG. 4A (note also that any number greater than or equal to 2 would comprise even and odd numbers)).

Insofar as Applicant’s disclosure allows for “a diameter of the actuator bore between a pair of opposite tabs is equal to a diameter of the sleeve of the bearing cartridge,” then claim 10 is also seen to be met by such a limitation (diameter of bore includes the inner diameter of tabs (114) which contact the outer races (142, 144)).

As per claim 14, wherein the actuator assembly comprises only a single actuator body supported on the bearing cartridge assembly (i.e., there are not two actuators in the device).

Additionally, as per claim 16, means for attaching the actuator assembly to the sleeve of the bearing cartridge assembly includes the structure as set forth in claim 1, as covered by the Applicants disclosure, and as shown to be met by the mapping of Blanks (US 5,315,465) to the structure of claim 1 (and hence the equivalent structure disclosed within Applicant’s specification).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3, 11-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanks (US 5,315,465)

See the description of Blanks (US 5,315,465), *supra*.

As per claim 12, see the description of claim 1, *supra*.

As per claim 13, see the description of claim 4, *supra*.

As per claim 3, although Blanks (US 5,315,465) remain silent with respect to wherein each of the tabs extends more than half way between the upper and lower surfaces in the bore of the depth of the actuator assembly, given the teachings of Blanks (US 5,315,465) to provide a prescribed preload to the bearings of a pivot assembly via using tabs (114), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wherein each of the tabs extends more than half way between the upper and lower surfaces in the bore of the depth of the actuator assembly.

The rationale is as follows: given the teachings of Blanks (US 5,315,465) to provide a prescribed preload to the bearings of a pivot assembly via using tabs (114), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wherein each of the tabs extends more than half way between the upper and lower surfaces in the bore of



the depth of the actuator assembly in order to increase the surface area contact between the outer races and the tabs and the inner walls of (128) of the bearing assembly..

No new or unobvious result is seen to be obtained, given the express teachings and motivations, as espoused by Blanks (US 5,315,465), by providing wherein each of the tabs extends more than half way between the upper and lower surfaces in the bore of the depth of the actuator assembly, in light of the general knowledge of an artisan having ordinary skill in the art, with the express rationale provided for doing so, *supra*.

An invention that would have been obvious is not patentable. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740, 82 USPQ2d at 1396. The operative question is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

Given, the teachings of Blanks (US 5,315,465), the level of skill in the art, and small difference between what Blanks (US 5,315,465) discloses and claim 3, the Examiner concludes that providing wherein each of the tabs extends more than half way between the upper and lower surfaces in the bore of the depth of the actuator assembly in the device of Blanks (US 5,315,465)

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would involve nothing more than the mere use of common sense by one skilled in the art to select and combine known elements with no new function, i.e., a predictable result.

Moreover still, as set forth in MPEP § 2141, emphasis in bold italics added:

Prior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. The prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. The “mere existence of differences between the prior art and an invention does not establish the invention’s nonobviousness.” *Dann v. Johnston*, 425 U.S. 219, 230, 189 USPQ 257, 261 (1976). The gap between the prior art and the claimed invention may not be “so great as to render the [claim] nonobvious to one reasonably skilled in the art.” *Id.* In determining obviousness, neither the particular motivation to make the claimed invention nor the problem the inventor is solving controls. The proper analysis is whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts. See 35 U.S.C. 103(a). Factors other than the disclosures of the cited prior art may provide a basis for concluding that it would have been obvious to one of ordinary skill in the art to bridge the gap.

Additionally, as per claims 11 and 15, although Blanks (US 5,315,465) does not expressly disclose a, wherein the sleeve comprises a flange located above the actuator body, a contact region located generally within the actuator bore, and a lower region located below the actuator body (as per claim 11), or a snap ring fastened in an annular groove beneath the actuator body on the bearing sleeve to retain the actuator body on the sleeve, such snap rings are notoriously old and well known and ubiquitous in the art (claim 15); such Officially noticed fact being capable of instant and unquestionable demonstration as being well-known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Blanks (US 5,315,465) within a conventional actuator assembly

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having an outer flange and/or snap ring fastened in an annular groove beneath the actuator body on the bearing sleeve to retain the actuator body on the sleeve.

The rationale is as follows: one of ordinary skill in the art would have been motivated to use the teachings of Blanks (US 5,315,465) within a conventional actuator assembly having an outer flange or snap ring fastened in an annular groove beneath the actuator body on the bearing sleeve to retain the actuator body on the sleeve in order to securely fasten the bearing to the actuator body with a conventional disk drive, as is well known, established and appreciated in the art.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (571) 272-7577. The examiner can normally be reached on Monday-Friday (7:30AM-6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William J. Klimowicz/  
Primary Examiner, Art Unit 2627

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